

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: T. WEST

Confirmation No.:

Application No.: To be assigned

Group Art Unit: To be assigned

Filing Date: Concurrently herewith

Examiner: To be assigned

For: METHODS OF MAKING TUNGSTEN  
CARBIDE-BASED ANNULAR  
JEWELRY ARTICLES

Attorney Docket No.: 81876-4094

**PETITION TO MAKE SPECIAL UNDER 37 C.F.R. §1.102(d) AND  
INCORPORATED INFORMATION DISCLOSURE STATEMENT**

**Mail Stop PATENT APPLICATION**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

This is a petition to the Commissioner to make special the above-identified patent application. The grounds and conditions for granting this application special status are found in M.P.E.P. §708.02(VIII) entitled "Special Examining Procedure for Certain New Applications – Accelerated Examination."

In accordance with the requirements of 37 C.F.R. §1.102(d) and 37 C.F.R. §1.17, please charge the required Petition Fee of \$130.00 and any other required fees to Winston & Strawn Deposit Account No. 801-504. A copy of this sheet and the signature page are enclosed for accounting purposes.

As provided in M.P.E.P. §708.02(VIII), Applicant agrees to the special examining procedure detailed therein. In support of this Petition, Applicant provides the following:

- I. A statement that the claims are directed to a single invention.
- II. A description of a pre-examination search performed in connection with this application.
- III. A copy of each of the documents identified by the pre-examination search.
- IV. A detailed discussion of these documents pointing out, with the particularity required by 37 C.F.R. §§1.111(b) and 1.111(c), how the claimed subject matter is distinguishable over the documents.

## **I. The Claims Are Directed To a Single Invention**

It is believed that claims 1-23, which constitute all of the claims of the instant application, are directed to a single invention, *i.e.*, methods for making a jewelry article comprising an annular body made of a hard material comprising tungsten carbide compositions.

## **II. Description of the Pre-Examination Search**

This application is a continuation of U.S. Application No. 10/410,656, filed April 8, 2003, now pending, which is a divisional of U.S. Application No. 09/571,583, filed May 15, 2000, now U.S. Patent No. 6,553,667, which is a continuation-in-part of U.S. Application No. 09/149,796, filed September 8, 1998, now U.S. Patent No. 6,062,045, which claims priority to Provisional Application No. 60/058,136, filed September 8, 1997. An international application corresponding to Application No. 09/149,796 was filed under the Patent Cooperation Treaty, Application No. PCT/US98/18680 was filed September 8, 1998. An International Search Report has been established for this PCT application. A copy of the International Search Report and the claims of the PCT application are enclosed herewith.

Application No. PCT/US98/18680 discloses and claims methods for making an item of jewelry made of sintered metals or ceramics, as well as the resultant articles. The instant application also discloses and claims such methods, but the present claims specify that the jewelry comprise an annular body formed of tungsten carbide and be provided in a predetermined shape. The generic claims searched by the International Searching Authority, therefore, encompass the specific subject matter claimed in the instant application. Thus, these searches are directly relevant to the subject matter claimed in the instant application. As M.P.E.P §708.02(VIII)(c) explicitly provides, a search made by a foreign patent office satisfies the requirement of a pre-examination search.

## **III. Results of Pre-Examination Search**

The International Search Report contains the following documents:

1. (H) U.S. Patent No. 3,669,695
2. (R) Australian Patent No. 208883
3. (A) U.S. Patent No. 1,654,335
4. (C) U.S. Patent No. 2,016,679
5. (S) Great Britain Application No. 2210249
6. (E) U.S. Patent No. 3,409,416

7. (D) U.S. Patent No. 2,027,060
8. (T) English abstract of Japanese Application Publication No. 6-78814
9. (G) U.S. Patent No. 3,606,766
10. (I) U.S. Patent No. 3,719,479
11. (K) U.S. Patent No. 3,776,706
12. (L) U.S. Patent No. 3,901,717

A copy of each document is submitted herewith, along with a properly completed substitute PTO-1449, entitled "List of References Cited by Applicant." The letters in parentheses provided in the list above correspond to the designations assigned to these documents in the accompanying substitute Form PTO-1449. The significance of each reference is discussed below.

Applicant reserves the right to further establish the patentability of the claimed invention over any of the documents described herein should they be applied as references, and/or to prove that some of these documents may not be prior art, and/or to prove that some of these documents may not be enabling of the teachings they purport to offer.

#### **IV. Detailed Discussion of Documents from the Pre-Examination Search**

This section provides a detailed discussion of the above-listed documents. This discussion points out, with the particularity required by 37 C.F.R. §§1.111(b) and 1.111(c), how the claimed subject matter is distinguishable over the documents.

Reference 1 discloses articles of jewelry formed of a hard polished composition consisting essentially of 20 to 100 volume% TiN, ZrN, HfN, NbN, VN, or their mixtures; 0 to 70 volume% borides or carbides of Ti, Zr, Nb, Ta, W, Mo, V, Cr, Hf, or their mixtures, or AlN, Al<sub>2</sub>O<sub>3</sub>, ZrO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>·MgO, SiO<sub>2</sub>, TiO<sub>2</sub>, MgO, rare earth oxides, or their mixtures; and 0 to 50 volume% Cr, Mo, W, Fe, Co, Ni, Ti, Zr, Nb, Ta, Hf, or their mixtures (*See, e.g.*, column 1, lines 22-25; column 1, line 61 to column 2, line 4; column 2, lines 16-32 and 41-47). The solids have a density of less than 9 g/cm<sup>3</sup> (*See, e.g.*, column 2, lines 5-6 and 32-33). The reference discloses that refractory carbides have drawbacks in articles of jewelry, such as being too heavy. Incorporating substantial amounts of nitrides decreases the density and impart a golden color to the jewelry (*See, e.g.*, column 1, lines 32-48).

The invention of the present application is "A method of making a jewelry article which comprises providing an annular body made of a hard material comprising tungsten carbide, with the annular body having at least one external facet; and grinding the at

least one external facet to a predetermined shape to provide a pleasing appearance to the jewelry article, with the hard material being long wearing and virtually indestructible during use of the article." Claim 1 is thus distinct from Reference 1, in part because it recites providing an annular body made of a hard material and that the hard material is long wearing and virtually indestructible during normal use of the jewelry article. Several dependent claims further recite specific facet geometries for the ring. Claim 9 recites that the hard material includes at least 85 weight% tungsten carbide (*See, e.g.*, table on page 6), while claim 22 recites that the hard material has a density of at least 13.3 g/cm<sup>3</sup> (based on having 85% of the density from tungsten carbide and the remainder being filler of negligible density). Further, claims 19-20 each recites the transition language "consisting essentially of," which excludes compounds that would affect the hard material and the long wearing and virtually indestructible attributes provided during the forming of the claimed invention. These claims further distinguish the present invention from the subject matter of reference 1.

Reference 2 discloses a finger ring having raised ends surrounding an inlaid center band. The reference does not disclose or suggest methods for making a jewelry article that includes tungsten carbide. Thus, it does not fall within the scope of the present claims.

Reference 3 discloses an improved setting for gems in a piece of jewelry. The reference does not disclose or suggest methods for making a jewelry article that includes tungsten carbide. Thus, it does not fall within the scope of the present claims.

Reference 4 discloses an interlocking jewelry ornament whose appearance can be changed by the wearer. The reference does not disclose or suggest methods for making a jewelry article that includes tungsten carbide. Thus, it does not fall within the scope of the present claims.

Reference 5 discloses a variable design ring having an inner ring and an outer ring so that the design can be changed. The reference does not disclose or suggest methods for making a jewelry article that includes tungsten carbide. Thus, it does not fall within the scope of the present claims.

Reference 6 discloses compositions containing a nitride of Al, Ti, Zr, Ta, Hf, Ni, V, or their mixtures interspersed with a refractory metal binder, such as tungsten. The reference does not disclose or suggest methods for making a jewelry article that includes tungsten carbide. Thus, it does not fall within the scope of the present claims.

Reference 7 discloses a finger ring, such as a class ring, formed of a laminate of a highly colored metal and a neutral colored metal to provide a less expensive ring than a solid gold ring. The reference does not disclose or suggest methods for making a jewelry

article that includes tungsten carbide. Thus, it does not fall within the scope of the present claims.

Reference 8 discloses a metallic ring consisting essentially of metals and a binder that are sintered. The reference does not disclose or suggest methods for making a jewelry article that includes tungsten carbide. Thus, it does not fall within the scope of the present claims.

Reference 9 discloses a gold finger ring formed of compressed and sintered fine gold powder having refractory oxide particles uniformly dispersed throughout. The reference does not disclose or suggest methods for making a jewelry article that includes tungsten carbide. Thus, it does not fall within the scope of the present claims.

Reference 10 discloses a method of hot-pressing refractory powders into dense ring-shaped compacts. The reference does not disclose or suggest methods for making a jewelry article comprising an annular body that includes tungsten carbide. Thus, it does not fall within the scope of the present claims.

Reference 11 discloses articles of jewelry consisting essentially of 25 to 75 volume% refractory  $\text{Al}_2\text{O}_3$ , 25 to 75 volume% refractory  $\text{TiC}$ , and 0 to 10 volume% metal. The reference does not disclose or suggest methods for making a jewelry article comprising an annular body that includes tungsten carbide. Thus, it does not fall within the scope of the present claims.

Reference 12 discloses articles of jewelry that include precious metals uniformly distributed in a ceramic matrix to form a material having a hardness of at least 6 Mohs. The reference does not disclose or suggest methods for making a jewelry article comprising an annular body that includes tungsten carbide. Thus, it does not fall within the scope of the present claims.

## **V. Information Disclosure Statement**

In accordance with the duty of disclosure imposed by 37 C.F.R. §1.56 to inform the Patent Office of all references coming to the attention of Applicant or attorneys or agents for Applicant which are or may be material to the patentability of any claim of the subject application, attorneys for Applicant hereby directs the Examiner's attention to the references listed on the attached substitute Form PTO-1449. Copies of all references are submitted herewith for the Examiner's convenience.

The references listed on the substitute Form PTO-1449 include each of the references discussed herein, above, in Section IV, *i.e.*, those references considered by the

Applicant and the International Searching Authority to be those most closely related to the subject matter encompassed by the claims. In addition, the substitute Form PTO-1449 includes other references known to Applicant which may be material to the patentability of the claims of the instant application.

Identification of the references listed on the substitute Form PTO-1449 is not to be construed as an admission by Applicant or attorneys for Applicant that such references are available as "prior art" against the subject application under 37 C.F.R. § 1.97(h). Further, Applicant believes that the invention claimed in the instant application is patentable over each of the cited references.

#### **VI. Conclusion**

Applicant respectfully submits that the requirements of 37 C.F.R. §1.102 and M.P.E.P. §708.02 pertaining to special status have been satisfied. Accordingly, it is respectfully requested that this Petition to Make Special be granted and that the application be examined in expedited fashion.

This statement should not be construed as a representation that an exhaustive search has been made, or that there does not exist information more material to the examination of the present patent application. The submission of this material is not intended to displace the Examiner's professional ability and duty to search. Indeed, the Examiner is specifically requested not to rely solely on the materials submitted herewith and to conduct the appropriate searching required during examination. The Examiner is also requested to conduct an independent and thorough review of the enclosed documents, and to form an independent opinion as to their significance.

Respectfully submitted,

Aug. 5, 2003  
Date

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## CLAIMS

- 1 1. An item of jewelry made of material selected from the group consisting of sintered  
2 metals and ceramics and having at least one highly polished facet formed on an outer surface  
3 thereof.
- 1 2. An item of jewelry as recited in claim 1 configured as an annular band having at least  
2 one annular groove formed in the outermost surface thereof and includes an insert of precious  
3 metal disposed within said groove.
- 1 3. An item of jewelry as recited in claim 2 wherein the outer surface of said inset of  
2 precious metal is recessed below adjacent extremities of said annular band.
- 1 4. An item of jewelry as recited in claim 3 wherein at least one gemstone is set in said insert  
2 of precious metal, the outermost surface of said gemstone being recessed beneath said adjacent  
3 extremities of said annular band.
- 1 5. An item of jewelry as recited in claim 3 wherein at least one gemstone is set in said insert  
2 of precious metal.
- 1 6. An item of jewelry as recited in claim 2 wherein at least one gemstone is set in a cavity  
2 in said band.
- 1 7. An item of jewelry as recited in claim 1 configured as an annular band embedded in a  
2 concentric band of precious metal and having its outermost circumference protruding above the  
3 outermost circumference of said concentric band.
- 1 8. An item of jewelry as recited in claim 1 wherein said annular band is comprised of at  
2 least two components axially separated by and joined together by at least one annular band of  
3 precious metal.

1 9. An item of jewelry as recited in claim 8 wherein said axially separated annular bands are  
2 joined together by a plurality of concentric annular bands made of disparate materials.

1 10. An item of jewelry as recited in claim 1 wherein said annular band includes at least two  
2 grooves formed in the outer surface thereof, said two grooves being at least partially filled with a  
3 material other than that of said annular band.

1 11. A method of providing an item of jewelry comprising:  
2 providing a pressure mold having a cavity of predetermined configuration formed  
3 therein;  
4 providing a mixture of two or more powdered materials that can be solidified upon the  
5 application of pressure and heat;  
6 depositing a predetermined quantity of said mixture of powdered materials within said  
7 cavity;  
8 compressing said quantity of powdered material to form a blank;  
9 sintering said blank to form at least a component of said item of jewelry.

1 12. A method as recited in claim 11 wherein said item of jewelry is in the form of an annular  
2 band having a groove formed in the outer surface thereof, and further comprising the step of  
3 affixing a material within said outer groove, the outer surface thereof being recessed beneath the  
4 bounding edges of said groove.

1 13. A method as recited in claim 12 wherein said affixed material is a precious metal that is  
2 affixed to said annular ring by brazing.

1 14. A method as recited in claim 12 wherein said affixed material is affixed to said annular  
2 blank through the use of resinous materials.

1 15. A method as recited in claim 12 and further comprising the step of finish polishing at  
2 least one surface of said annular blank.

1 16. A method as recited in claim 12 wherein said annular band has a plurality of facets  
2 formed in an outer surface thereof.



1 17. A method as recited in claim 12 wherein said affixed material is affixed to said annular  
2 blank by a mechanical interlocking of parts.

1 18. A method as recited in claim 11 wherein said blank is severed to form a plurality of sub-  
2 blanks, each forming at least a component of said item of jewelry.

1 19. A method as recited in claim 11 and further comprising affixing a gemstone or piece of  
2 precious metal to said item of jewelry.

1 20. A method as recited in claim wherein said component has a plurality of facets formed in  
2 an outer surface thereof.

<b>LIST OF REFERENCES CITED BY APPLICANT</b> <b>Form PTO-1449</b> <i>(Use several sheets if necessary)</i>				ATTY. DOCKET NO.: <b>81876-4094</b>		APPLICATION NO.:		
Sheet 1 of 1				APPLICANT: <b>Trent WEST</b>				
				FILING DATE: <b>Concurrently herewith</b>		GROUP:		
<b>U.S. PATENT DOCUMENTS</b>								
*EXAMINER INITIAL	CITE NO.	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE	
	A	1,654,335	12/1927	Lindroth				
	B	1,689,124	10/1928	Fitzgerald				
	C	2,016,679	10/1935	Mayer	63	15		
	D	2,027,060	1/1936	Niven et al.	63	15		
	E	3,409,416	11/1968	Yates	29	482.5		
	F	3,417,223	12/1968	Steigerwald	219	121		
	G	3,606,766	9/1971	Hill	63	15		
	H	3,669,695	6/1972	Iler et al.	106	43		
	I	3,719,479	3/1973	Flanagan	75	226		
	J	3,725,634	4/1973	Lane	219	121		
	K	3,776,706	12/1973	Daniels et al.	29	182.5		
	L	3,901,717	8/1975	Revaz	106	42		
	M	4,090,284	5/1978	Kraft	29	159.3		
	N	4,281,235	7/1981	Peloquin	219	121		
	O	4,387,627	6/1983	Avezou	92	222		
	P	4,549,058	10/1985	DelMastro et al.	219	121		
	Q	5,462,772	10/1995	Lemelson	427	554		
<b>FOREIGN PATENT DOCUMENTS</b>								
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	R	208,883	8/1956	Australia			✓	
	S	2 210 249	6/1989	Great Britain			✓	
	T	JP9268241	10/1997	Japan (English Abstract)			✓	
	U	WO 99/12443	3/1999	PCT			✓	
	V	WO 02/21962	3/2002	PCT			✓	
<b>OTHER REFERENCES</b> <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>								
	W	Sharr Choate, "Creative Gold- and Silversmithing," 1970, pp. 58-68, 139-150, 165-170, 188, 245-264.						
<b>EXAMINER</b>				<b>DATE CONSIDERED</b>				
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.								